

SEQUENCE LISTING

```
<110> SQUIRRELL, DAVID J.
      MURPHY, MELANIE J.
      PRICE, RACHEL L.
      LOWE, CHRISTOPHER R.
      WHITE, PETER J.
      TISI, LAURENCE C.
      MURRAY, JAMES A.H.
<120> NOVEL ENZYME
<130> 1498-119
<140> 09/763,824
<141> 2002-04-29
<150> PCT/GB99/03538
<151> 1999-10-26
<150> GB 9823468.5
<151> 1998-10-28
<160> 36
<170> PatentIn Ver. 2.1
<210> 1
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 1
cgccggtgag ctccccgccg ccg
                                                                    23
<210> 2
<211> 23
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 2
cggcggcggg gagctcaccg gcg
                                                                    23
<210> 3
<211> 51
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
```

```
cgaacacttc ttcatcgttg accgccttaa gtctttaatt aaatacaaag g
                                                                 51
<210> 4
<211> 51
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
cctttgtatt taattaaaga cttaaggcgg tcaactatga agaagtgttc g
                                                                 51
<210> 5
<211> 32
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 5
                                                                   32
gaaaggcccg gcaccagcct atcctctaga gg
<210> 6
<211> 32
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 6
cctctagcgg ataggctggt gccgggcctt tc
                                                                   32
<210> 7
<211> 36
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
ccataaattt accgaattcg tcgacttcga tcgagg
                                                                   36
<210> 8
<211> 18
<212> DNA
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: Primer
<400> 8
                                                                   18
gtgtggaatt gtgagcgg
<210> 9
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 9
                                                                    21
gagatacgcc gcggttcctg g
<210> 10
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 10
ccaggaaccg cggcgtatct c
                                                                   21
<210> 11
<211> 30
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 11
ccctattttc attcctggcc aaaagcactc
                                                                   30
<210> 12
<211> 30
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 12
gagtgctttt ggccaggaat gaaaataggg
                                                                   30
<210> 13
<211> 27
```

•

<212>			
<213>	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>			
ccgcat	agag ctctctgcgt cagattc	27	
<210>	14		
<211>	27		
<212>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>	14 gacg cagagagete tatgegg	27	
gaacci	gacg cagagagete tatgegg	21	
<210>	15		
<211>	30		
<212>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>	15		
gttgaccgct tgggatcctt aattaaatac 30			
<210>			
<211>			
<212>			
<213>	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>	16		
gtatag	gattt gaaaaagagc tg	22	
<210>	17		
<210>			
<211>			
	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>	17		
cagcto	etttt tcaaatctat ac	22	

 $|\sigma_{ij}\rangle = |\sigma_{ij}\rangle - |\sigma_{ij}\rangle$

```
<210> 18
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 18
ggctacatac tggagacata gc
                                                                    22
<210> 19
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 19
gctatgtctc cagtatgtag cc
                                                                    22
<210> 20
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 20
gcagttgcgc ccgtgaacga c
                                                                    21
<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 21
gtcgttcacg ggcgcaactg c
                                                                    21
<210> 22
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 22
caaatcattc cgggtactgc gattttaag
                                                                    29
```

```
<210> 23
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 23
cttaaaatcg cagtacccgg aatgatttg
                                                                    29
<210> 24
<211> 27
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 24
ccgcatagaa ctctctgcgt cagattc
                                                                    27
<210> 25
<211> 27
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 25
gaatctgacg cagagagttc tatgcgc
                                                                    27
<210> 26
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 26
ctgattacac ccaaggggga tg
                                                                    22
<210> 27
<211> 22
<212> 'DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
```

```
<400> 27
cateceett gggtgtaate ag
                                                                    22
<210> 28
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<220>
<221> modified base
<222> (15)..(17)
<223> a, g, c or t
<400> 28
                                                                    29
cccttccgca tagannngcc tgcgtcagt
<210> 29
<211> 29
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<220>
<221> modified_base
<222> (13)..(15)
<223> a, g, c or t
<400> 29
actgacgcag gcnnntctat gcggaaggg
                                                                    29
<210> 30
<211> 25
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Primer
<400> 30
gcaatcaaat cgctccggat actgc
                                                                    25
<210> 31
<211> 25
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
```

<400>			
gcagta	atccg gagcgatttg attgc	25	
<210>	32		
<211>			
<212>			
	Artificial Sequence		
\2137	Altiticial bequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
	•		
<400>	32		
ccattccatc aaggttttgg 20			
<210>			
<211>			
<212>			
<213>	Artificial Sequence		
<220>			
	Description of Artificial Sequence: Primer		
~2237	bescription of Artificial Dequence. Frimer		
<400>	33		
	acctt gatggaatgg	20	
	3		
<210>	34		
<211>			
<212>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
<400>			
aaacag	ggac ccatatggaa gacgc	25	
<210>	35		
<211>			
<212>			
	Artificial Sequence		
<220>			
<223>	Description of Artificial Sequence: Primer		
	•		
<400>	35		
aattaa	ctcg aggaatttcg tcatcgctga atacag	36	
<210>			
<211>			
<212>			
<213>	Artificial Sequence		

<220> <223> Description of Artificial Sequence: Primer

<400> 36 ccctattttc attcctggcc aaaagcactg